Winnebago Landfill
Northern and Southern Units
Winnebago County, Illinois

Permit Number: 1991-138-LF
Site Number: 2018080001

Alternate Source Demonstration

May 2012

Submitted to:
Illinois Environmental Protection Agency
Bureau of Land
Springfield, Illinois

Prepared for:
Winnebago Landfill
8403 Lindenwood Road
Rockford, Illinois

Prepared by:
ANDREWS
ENGINEERING, INC.
3300 Ginger Creek Drive
Springfield, Illinois 62711
Tel: (217) 787-2334; Fax: (217) 787-9495

ANDREWS ENGINEERING, INC.

May 14, 2012

Stephen F. Nightingale
Manager, Permit Section
Bureau of Land
Illinois Environmental Protection Agency
1021 North Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276

Re: 2018080001 – Winnebago County
Winnebago Landfill – Northern and Southern Units
Alternate Source Demonstration

Dear Mr. Nightingale:

On behalf of Winnebago Landfill, submitted herein are an original and three copies of an alternate source demonstration in accordance with Condition VIII.15 of Permit No. 1991-138-LF, Modification 54. Application forms (LPC-PA1 and Certification of Authenticity) are provided in Appendix A of the application.

Please contact Tom Hilbert at (815) 963-7516 if you have any questions or require additional information.

Sincerely,

Teresa N. Sharp

Teresa N. Sharp
Environmental Scientist

TNS:bjh:sjb

Enclosure(s)

cc: Tom Hilbert – William Charles Waste Companies
Bernie Shorle – US EPA Region 5

J:\1990\90-114 (Winnebago)\DOC\2012\WNS 4Q11 ASD\WNS 4Q11 ASD.docx
Applications

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1. INTRODUCTION

Condition No. VIII.15 of Permit No. 1991-138-LF, Modification No. 54 requires that an alternate source demonstration be conducted for all confirmed monitored increases detected in facility monitoring wells or that an assessment monitoring program be implemented to determine whether the facility is the source of confirmed increases. Exceedences that were observed during the fourth quarter of 2011 were sampled for confirmation during the first quarter 2012 event. This alternate source demonstration will address the fourth quarter 2011 confirmed exceedences for Northern Unit wells G13D (benzene), and G33D and G33S (pH). The application forms (Certification of Authenticity and LPC-PA1) are contained in Appendix A.

2. BACKGROUND INFORMATION

2.1 Site Description

The Winnebago Landfill facility contains three separate disposal areas (Northern and Southern Units, and the North Expansion Unit) authorized under Illinois EPA Permit Nos. 1991-138-LF and 2006-221-LF, respectively. A site map has been provided as Figure 1. The Northern Unit ceased accepting waste on September 8, 2000. The Southern Unit ceased accepting waste on March 31, 2011. In addition, a North Expansion Unit, located between the existing Northern Unit and Baxter Road, began operation under Illinois Permit No. 2006-221-LF on May 16, 2008. This unit is also shown in Figure 1.

2.2 Site Hydrogeological Summary

The site hydrogeologic characteristics have been accurately determined based on implementation of a series of subsurface investigations, beginning with the initial drilling investigation in 1969 by Testing Engineers, Inc. Subsequent investigations have included advancement of borings, well/piezometer installations for the existing site and facility expansion, and comprehensive groundwater quality testing due to releases from Acme Solvents. Additional hydrogeologic information has been obtained due to development activities of the North Expansion Unit, which includes excavation of materials exposing bedrock and unconsolidated deposits.

2.2.1 Unconsolidated Deposits

The composition of the unconsolidated deposits, which appear to be glacial outwash, varies with location throughout the facility boundaries. Coarse-grained sand and gravel with occasional silt and/or clay seams typically underlie the Northern Unit. The thickness of the sand and gravel varies from just a few feet beneath the east toe of the waste footprint to approximately 70 feet beneath the western edge of the waste boundary. The sand and gravel thickens to the west, corresponding with the erosion of the underlying dolomite. Unconsolidated sand and gravel glacial drift sediments directly underlay the western portion of the Northern Unit, while fractured dolomite bedrock underlies the eastern portion of the landfill.

2.2.2 Bedrock

The bedrock consists of dolomite, fractured and weathered to varying extents. Chert layers, chert nodules, and small vugs were commonly noted on boring logs. However, larger voids or karst characteristics were not indicated on the boring logs. The bedrock surface is highly variable throughout the facility. East of the site a dolomite bedrock upland is present and

outcrops in the vicinity of the Acme Solvent site and two quarries. This bedrock upland represents the eastern bedrock escarpment of the Upper Rock buried valley. The site is situated on the eastern edge of the Upper Rock buried bedrock valley. The overburden thickens as the elevation of the bedrock surface decreases to the west. As determined by previous boring investigations, and monitor well and gas probe installations, the bedrock varies from a high near 750 feet above mean sea level (MSL) at the southeast corner of the Northern Unit to a low of approximately 675 feet above MSL to the west and south of the Southern Unit.

2.2.3 Uppermost Aquifer

The uppermost aquifer for the site is located within the glaciofluvial sand and gravel deposits and the upper portion of the fractured dolomite bedrock. The saturated sands and gravels, which directly overlie the bedrock, occur in the western two-thirds of the Northern Unit. In locations where there are no saturated glaciofluvial deposits, the uppermost aquifer is located within the dolomite bedrock typically overlain by silty clay deposits. This occurs in the eastern third of the Northern Unit.

2.2.4 Groundwater Movement

The general direction of movement within the uppermost aquifer is westward in the bedrock upland east of the site. Groundwater movement in the unconsolidated sediments is to the west-northwest. Potentiometric surface maps provided in Appendix B indicate groundwater movement is generally west-northwest beneath the Northern Unit. Groundwater elevations obtained from recent monitor wells and piezometers installed west of Kilbuck Creek indicate movement is to the northwest of Kilbuck Creek. Shallow groundwater may discharge to Kilbuck Creek while groundwater in the lower part of the unconsolidated sediments and deeper bedrock moves beneath Kilbuck Creek.

Kilbuck creek is both a gaining and losing stream dependent upon hydrogeologic and atmospheric conditions. During drier periods where the water table drops below the bottom of the creek bed, surface waters feed the groundwater system. During wetter periods where the water table is high (above the bottom of the creek bed) the groundwater system will recharge the stream and wetlands. This fluctuation allows mixing of surface water (and, therefore, surface water constituents) with groundwater (and any groundwater constituents) often on a seasonal basis. In addition, dependent upon the creek stage, the surface waters of both the creek and the wetland mitigation area may be contiguous.

The aquifer system beneath the facility, which includes both the saturated sand and gravel and the upper weathered/fractured part of the dolomite, extends to an approximate depth of 665 feet MSL. East of the landfill and beneath the eastern quarter of the Northern Unit, the water table occurs within the dolomite bedrock. Beneath the western three-fourths of the site and within the Kilbuck Creek Valley, the water table occurs within the sand and gravel deposits. Previous hydrogeologic investigations and evaluations have shown that vertical gradients do exist within the uppermost aquifer but are typically slight at any individual location. Therefore, groundwater elevations from the bedrock wells and wells screened in the unconsolidated materials (sand and gravel) were used to create one potentiometric surface for each quarterly sampling period. As expected, the hydraulic gradients are greater at the east end of the facility where the bedrock is higher, and flat near Kilbuck Creek.

3. CURRENT GROUNDWATER MONITORING PROGRAM

3.1 Existing Monitor Well Network

The facility has an extensive network of monitoring wells from which groundwater data are obtained. Separate monitor well networks exist for the Northern and Southern Units. The Northern Unit contains 21 groundwater monitoring points, of which five are designated as background groundwater quality wells (upgradient), one is a compliance boundary well at the edge of the zone of attenuation and the remaining wells monitor within the zone of attenuation down- and sidegradient of the landfill. Winnebago Landfill samples 14 additional wells on a quarterly basis as part of the Groundwater Management Zone (GMZ) monitoring network. Each well is identified in Figure 1. The following table provides a list of the monitoring wells for the Northern Unit.

Northern Unit Detection Monitoring Wells (21)	
Upgradient	G09D, G09M, G13S, G13D, G20D
Compliance Boundary	R39S
Zone of Attenuation	G03M, G16M, G17S, G33D, G34D, G35D, G36S
	G37S, G38S, G40S, G41D, G41M, G41S, R42S, G51S
Northern Unit GMZ Only Wells (14)	
Compliance Boundary	G52S, G52M, G53S, G53M, G54S, G54M
Zone of Attenuation	R03S, G16D, G33S, G34S, G35S, G37D, G130, G50S

The Southern Unit contains 17 permitted groundwater monitoring points. Six are designated as background groundwater quality wells (upgradient); two (G13S and G13D) are also background wells for the Northern Unit. Although, monitoring wells R05S, G29S, and G29D are permitted as zone of attenuation wells, based on the potentiometric surface maps (Appendix B), these wells are also located upgradient to the waste units. The wells have been used previously in the derivation of the background/applicable groundwater quality standards (AGQS) values for the unit. The following table lists the monitoring wells for the Southern Unit.

Southern Unit Detection Monitoring Wells (17)	
Upgradient	R11S, G11D, G13S, G13D, R22S, G22D
Zone of Attenuation	R05S, G23D, R24D, R25D, R27D, A28D, R29S, G29D, G26S, G26D, G49D

3.2 Background Concentrations

The initial background concentrations (AGQSs) for the Northern Unit were determined from data obtained from four wells located east of Lindenwood Road on the Acme Solvent property (B-8, STI-2S, STI-2I, and STI-2D). Background sampling occurred from 1990 through 1992. The AGQSs were proposed in the initial significant modification application and subsequent addenda. Addendum 3 to the initial significant modification, dated February 10, 1993, provided the first full listing of routine AGQS values derived from wells G09M, G09D, G13S, and G13D. Since the time the background concentrations were obtained, remediation at the Acme Solvent facility ceased and an additional quarry began operation north/east of Acme Solvents (the facilities are located upgradient to the landfill). The approximate location of Acme Solvents and

the quarries are shown in Figure 2. These activities have likely affected the current background conditions. To account for changes in the background groundwater quality since 1993, revised AGQS values for 60 G1 and G2 List parameters were submitted and subsequently approved on March 26, 2004 with the issuance of Modification 24 to the current permit.

The initial AGQSs for the Southern Unit were determined from data obtained from the permitted upgradient/background wells. However, revisions to several background values have included data from wells R05S, G29S, and G29D as part of the statistical derivation. Although permitted as zone of attenuation wells, these wells are actually hydraulically upgradient to the Southern Unit and provide additional information on the background groundwater quality. As mentioned in Section 3.1 above, monitoring wells G13S and G13D are contained in the monitoring well networks for both the Northern and Southern Units. The groundwater quality for these two wells along with R05S (Southern Unit) are not evaluated with respect to the permitted AGQSs but are reviewed based on trend analyses in accordance with Condition VIII.25 of Permit No. 1991-138-LF (Modification No. 54).

4. GROUNDWATER QUALITY

In accordance with 35 Illinois Administrative Code (Ill. Adm. Code) 811.319 and the current permit, the groundwater quality is evaluated on a quarterly basis. Results of the statistical evaluations are reported quarterly in accordance with Condition No. VIII.18. Notification of observed/confirmed increases has been submitted in accordance with Condition No. VIII.14 of the permit. As stated in the introduction, this alternate source demonstration will address the fourth quarter 2011 confirmed exceedences for Northern Unit wells G13D (benzene), and G33D and G33S (pH).The historical analytical data for the subject exceedences is provided in Table 1.

4.1 Benzene

The fourth quarter 2011 concentration (3.7 ug/l) of benzene exceeded the preceding second quarter 2011 concentration (1.7 ug/l) at upgradient well G13D, and was confirmed first quarter 2012 (2.7 ug/l). The fourth quarter 2011 concentration also exceeded the AGQS/MAPC value (2.8 ug/L). The first quarter 2011 concentration did not confirm the exceedence of the AGQS/MAPC value. The concentration of benzene at G13D decreased to 2.2 ug/L during second quarter 2012, remaining below the AGQS/MAPC value. Since well G13D is located upgradient of the landfill and concentrations are below the AGQS/MAPC value, no further action is necessary for this parameter.

4.2 pH

Concentrations of pH minimally exceeded the AGQS/MAPC upper limit (8.1 su) at wells G33D (8.48 su) and G33S (8.16 su) during fourth quarter 2011, and were confirmed first quarter 2012 (8.16 and 9 su, respectively). Concentrations of pH at G33D (6.94 su) and G33S (7.01 su) returned below the upper AGQS/MAPC limit during second quarter 2012.

A facility influenced change in pH should be accompanied by increases in additional constituents. There are no other confirmed increases at either well, indicating that the minimal increase in pH observed at wells G33D and G33S is not related to the facility. Since current concentrations are within the permitted range (5.4 – 8.1 su), no further action is necessary for this parameter.

5. RECOMMENDATIONS AND CONCLUSIONS

Based on an evaluation of the historic sampling results, the confirmed fourth quarter 2011 increases of benzene at upgradient well G13D, and pH at wells G33D and G33S are not associated with the landfill. Concentrations of benzene at G13D appear to be related to upgradient conditions. The minimal increase of pH observed for wells G33D and G33S appears to be a result of natural fluctuation in the groundwater. Since current concentrations of the subject parameters are below the permitted AGQS/MAPC values, no further action is necessary. This alternate source demonstration fulfills the requirements of Condition No. VIII.15 of Permit No. 1991-138-LF Modification No 54.

TABLES

Table 1
Winnebago Landfill
Historical Analytical

Well ID	Parameter	Units	GW List	AGQS	1stQtr97	2ndQtr97	3rdQtr97	4thQtr97	1stQtr98	2ndQtr98	3rdQtr98	4thQtr98	1stQtr99	2ndQtr99	3rdQtr99	4thQtr99
G13D	Benzene	ug/l	G2	2.8		< 2				< 2				< 1		
G33D	pH (field)	units	G1	5.4 - 8.1	7.21	7.04	7.31	7.31	7.16	7.71	7.37	7.28	7.21	8.3	7.53	7.84
G33S	pH (field)	units	G1	5.4 - 8.1												

Well ID	Parameter	Units	GW List	AGQS	1stQtr00	2ndQtr00	3rdQtr00	4thQtr00	1stQtr01	2ndQtr01	3rdQtr01	4thQtr01	1stQtr02	2ndQtr02	3rdQtr02	4thQtr02
G13D	Benzene	ug/l	G2	2.8		< 1				< 1				< 1		
G33D	pH (field)	units	G1	5.4 - 8.1	6.91	8.4	7.75	7.91	7.37	7.77	7.01	7.36	6.7	7.25	7.35	7.3
G33S	pH (field)	units	G1	5.4 - 8.1						7.78	7.82	7.29	6.61	7.43	7.45	7.33

Well ID	Parameter	Units	GW List	AGQS	1stQtr03	2ndQtr03	3rdQtr03	4thQtr03	1stQtr04	2ndQtr04	2ndQtr04re	3rdQtr04	4thQtr04	1stQtr05	2ndQtr05	3rdQtr05
G13D	Benzene	ug/l	G2	2.8		< 1	< 1	< 1	< 1	< 1		< 1			< 1	
G33D	pH (field)	units	G1	5.4 - 8.1	7.16	7.14	7.53	7.44	7.4	7.29	6.42	6.86	7.03	7.65	7.1	7.75
G33S	pH (field)	units	G1	5.4 - 8.1	7.11	7.18	7.61	7.5	7.62	7.3		7	6.11	7.81	7.22	7.9

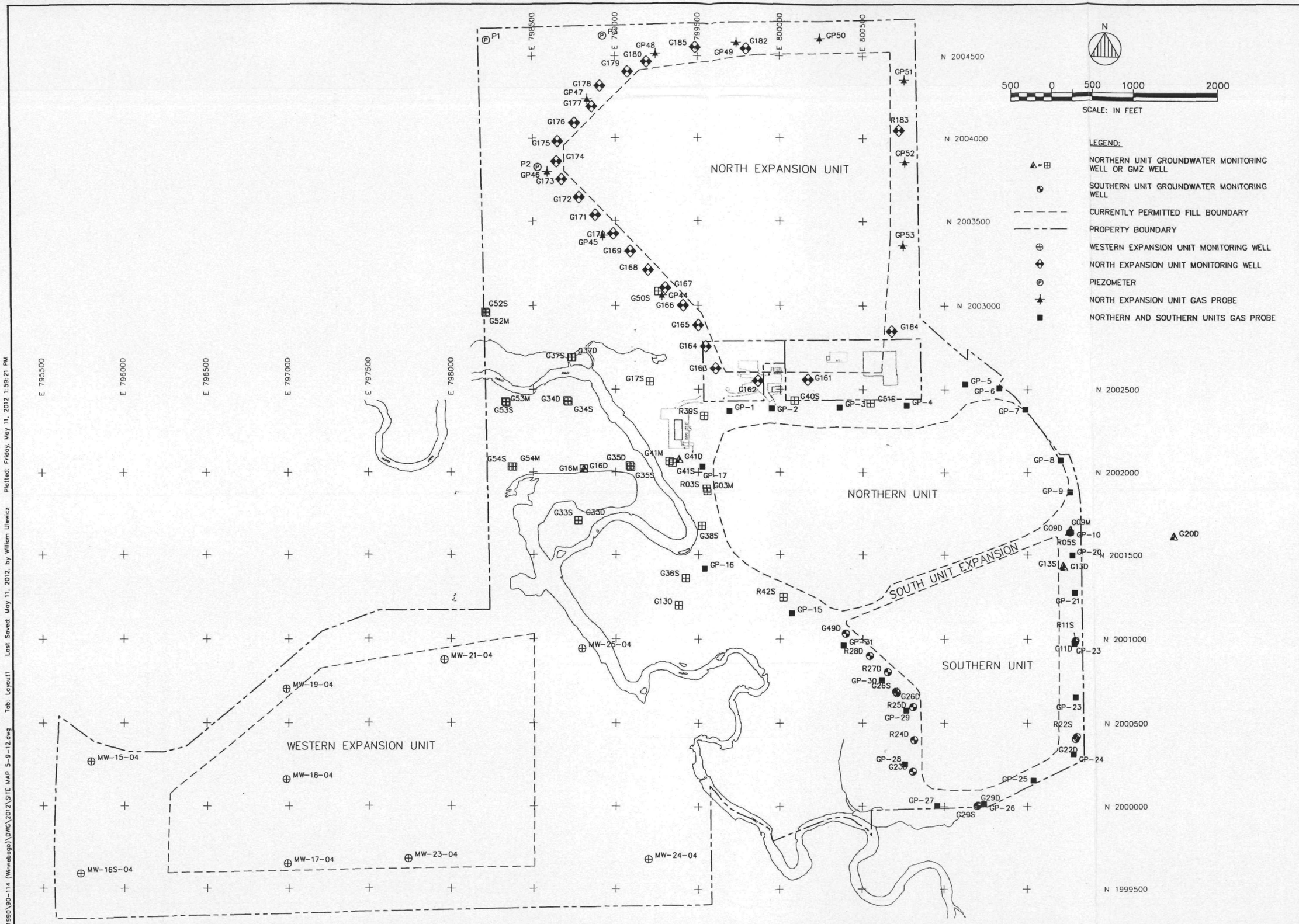
Well ID	Parameter	Units	GW List	AGQS	4thQtr05	1stQtr06	2ndQtr06	3rdQtr06	4thQtr06	1stQtr07	2ndQtr07	3rdQtr07	4thQtr07	1stQtr08	1stQtr08re	2ndQtr08
G13D	Benzene	ug/l	G2	2.8			< 1				< 1					< 1
G33D	pH (field)	units	G1	5.4 - 8.1	7.28	7.37	7.2	7.51	8.05	8.08	8.27	8.38	7.34	6.97		6.77
G33S	pH (field)	units	G1	5.4 - 8.1	7.2	7.39	7.22	7.25	7.73	7.6	7.73	8.39	7.27	6.88		6.75

Well ID	Parameter	Units	GW List	AGQS	3rdQtr08	4thQtr08	1stQtr09	2ndQtr09	3rdQtr09	4thQtr09	1stQtr10	2ndQtr10	3rdQtr10	4thQtr10	1stQtr11	2ndQtr11
G13D	Benzene	ug/l	G2	2.8		< 1		< 1		< 1		< 1		< 1		1.7
G33D	pH (field)	units	G1	5.4 - 8.1	7.56	7.81	7.97	8.18	7.58	7.52	7.12	7.61	7.76		7.14	7.78
G33S	pH (field)	units	G1	5.4 - 8.1	7.94	8.11	7.85	8.08	7.8	7.41	7.26	7.66	7.84		7.2	7.96

Well ID	Parameter	Units	GW List	AGQS	3rdQtr11	4thQtr11	1stQtr12	2ndQtr12
G13D	Benzene	ug/l	G2	2.8		3.7	2.7	2.2
G33D	pH (field)	units	G1	5.4 - 8.1	7.09	8.48	8.16	6.94
G33S	pH (field)	units	G1	5.4 - 8.1	7.4	8.16	9	7.01

Note: A highlighted cell indicates an exceedence of the interwell AGQS value.

FIGURES



REVISIONS

NO.	DATE	DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-9495
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineering and Land Surveying Firm #184-001541

APPROVED BY: JLR | DESIGNED BY: LJR | DRAWN BY: MPN

SITE MAP

PLANS PREPARED FOR
WINNEBAGO RECLAMATION SERVICE, INC.
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: MAY 2012
PROJECT ID: 1990-114
SHEET NUMBER:

FIG. 1

J:\1990\90-114 (Winnebago)\DWG\2012\SITE MAP 5-9-12.dwg Tab: Layout1 Last Saved: May 11, 2012, by William Ulewicz Plotted: Friday, May 11, 2012 1:59:21 PM

LEGEND

CURRENTLY PERMITTED FILL BOUNDARY

NOTE:
AERIAL PHOTOGRAPHY TAKEN ON DECEMBER 16, 2011 BY AERO-METRIC, INC.

SCALE: IN FEET
250 0 250 500 1000

N

FIG. 2

SITE LOCATION MAP

PLANS PREPARED FOR
WINNEBAGO LANDFILL
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: FEBRUARY 2012
PROJECT #: 90-114
SHEET NUMBER:

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-9495
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO

APPROVED BY: TNS | DESIGNED BY: TNS | DRAWN BY: MPN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	5/11/10	ADDED COORDINATE SYSTEM GRID	KEV

APPENDIX A

APPLICATION FORMS

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

Certification of Authenticity of Official Forms

This form must accompany any application submitted to the Illinois EPA Bureau of Land, Division of Land Pollution Control, Permit Section on forms other than the official copy printed and provided by the Illinois EPA. The only allowed changes to the form are in spacing, fonts, and the addition of the information provided. Any additions must be underlined. The forms would not be considered identical if there is any change to, addition or deletion of words on the form or to the language of the form.

The same individuals that sign the application form it accompanies must sign the following certification.

I hereby certify under penalty of law that I have personally examined, and am familiar with the application form or forms and all included supplemental information submitted to the Illinois EPA herewith, and that the official Illinois Environmental Protection Agency application form or forms used herein is or are identical in all respects to the official form or forms provided by the Illinois EPA Bureau of Land Permit Section, and has not or have not been altered, amended, or otherwise modified in any way. I further certify under penalty of law that any attached or included electronic data version of the application form or forms complies with the official Illinois EPA's Electronic version thereof, and is or are identical in all respects to the official electronically downloadable form or forms provided by the Illinois EPA Bureau of Land Permit Section, and has not or have not been altered, amended or otherwise modified in any way.

By: _____ 4-12-2012
Owner Signature (date)

Engineering Manager
Title

By: _____ 4-12-2012
Operator Signature (date)

Engineering Manager
Title

_____ 5/10/12
Engineer Signature (date)
(if necessary)

Subscribed and Sworn to Before Me,
a Notary Public in and for the
above-mentioned County and State.

OFFICIAL SEAL
NICOLE M ROTE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 08/12/12

_____
Notary Public

My Commission Expires: 8-12-12 [Notary Seal]

Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • Box 19276 • Springfield • Illinois • 62794-9276

General Application for Permit
(LPC - PA1)

This form must be used for any application for permit, except for landscape waste composting or hazardous waste management facilities regulated in accordance with RCRA, Subtitle C from the Bureau of Land. One original, and two copies, or three if applicable, of all permit application forms must be submitted. Attach the original and appropriate number of copies of any necessary plans, specifications, reports, etc. to fully support and describe the activities and modifications being proposed. Attach sufficient information to demonstrate the compliance with all regulatory requirements. Incomplete applications will be rejected.

Niote: Permit applications which are hand-deliverd to the Bureau of Land, Permit Section must be delivered to the above address between 8:30 am and 5:00 pm, Monday through Friday (excluding State holidays).

NOTE: Please complete this form online, save a copy locally, print and submit it to the Permit Section #33, at the above address.

I. Site Identification:

Site Name: Winnebago Landfill IEPA ID Number: 2018080001

Street Address: 8403 Lindenwood Road P.O. Box: _____

City: Rockford State: IL Zip Code: 61109 County: Winnebago

Existing DE/OP Permit Numbers (if applicable): 1991-138-LF _____ _____

2. Owner/Operator Identification:

Owner		Operator	
Name:	Winnebago Landfill Company, LLC	Name:	Winnebago Reclamation Service, Inc.
Street Address:	5450 Wansford Way, Suite 201B	Street Address:	5450 Wansford Way, Suite 201B
PO Box:		PO Box:	
City:	Rockford State: IL	City:	Rockford State: IL
Zip Code:	61109 Phone:	Zip Code:	61109 Phone:
Contact:	Tom Hilbert	Contact:	Tom Hilbert
Email Address:	thilbert@rresvcs.com	Email Address:	thilbert@rresvcs.com

TYPE OF SUBMISSION/REVIEW PERIOD:		TYPE OF FACILITY:		TYPE OF WASTE:	
New Landfill/180 days (35 IAC Part 813)	☐	Landfill	☑	General Municipal Refuse	☑
Landfill Expansion/180 days (35 IAC Part 813)	☐	Land Treatment	☐	Hazardous	☐
Sig. Mod. to Operate/90 days (35 IAC Part 813)	☐	Transfer Station	☐	Special (Non-Hazardous)	☑
Other Sig. Mod./90 days (35 IAC Part 813)	☑	Treatment Facility	☐	Chemical Only (exec. putrescible)	☐
Renewal of Landfill/90 days (35 IAC Part 813)	☐	Storage	☐	Inert Only (exec. chem. & putrescible)	☐
Developmental/90 days (35 IAC Part 807)	☐	Incinerator	☐	Used Oil	☐
Operating/45 days (35 IAC Part 807)	☐	Composting	☐	Potentially Infectious Medical Waste	☐
Supplemental/90 days (35 IAC Part 807)	☐	Recycling/Reclamation	☐	Landscape/Yard Waste	☐
Permit Transfer/90 days (35 IAC Part 807)	☐	Other (Specify)	☐	Other (Specify)	☐
Renewal of Experimental Permit (35 IAC Part 807)	☐				

3. Description of this Permit Request:

Alternate source demonstration for fourth quarter 2011 confirmed exceedences.

4. Completeness Requirements

The following items must be checked Yes, No or N/A. Each item will be reviewed for completeness by the log clerk. Blank items will result in rejection of the application. Please refer to the instructions for further guidance.

1. Have all required public notice letters been mailed in accordance with the LPC-PA16 instructions? ☐ Yes ☐ No ☐ N/A

(If so, provide a list of those recipients of the required public notice letters for Illinois EPA retention. Such retention shall not imply any Illinois EPA review and/or confirmation of the list.)

Public Notice Recipients

Name: Dave Syverson Title: Senator - District 34
Street Address: 200 South Wyman Street, Suite 302 P.O. Box:
City: Rockford State: IL Zip Code: 61101 Phone:

Name: Charles Jefferson Title: Representative - District 67
Street Address: 200 South Wyman Street, Suite 304 P.O. Box:
City: Rockford State: IL Zip Code: 61101 Phone:

Name: Joseph Bruscato Title: State's Attorney
Street Address: 400 West State Street P.O. Box:
City: Rockford State: IL Zip Code: 61101 Phone:

Name: Scott Christiansen Title: County Chairman
Street Address: 404 Elm Street, Room 504 P.O. Box:
City: Rockford State: IL Zip Code: 61101 Phone:

Name: Village of New Milford Title: Village Clerk
Street Address: 6771 11th Street P.O. Box:
City: Rockford State: IL Zip Code: 61109 Phone:

Name: Village of Davis Junction Title: Village Clerk
Street Address: 106 North Elm Street P.O. Box: 207
City: Davis Junction State: IL Zip Code: 61020 Phone:

Name: Cherry Valley Township Title:
Street Address: 4875 Blackhawk Road P.O. Box:
City: Rockford State: IL Zip Code: 61109 Phone:

Name: Title: City of Rockford Clerk
Street Address: 425 East State St P.O. Box:
City: Rockford State: IL Zip Code: 61104 Phone:

2. a. Is the Siting Certification Form (LPC-PA8) completed and enclosed? ☐ Yes ☑ No ☐ N/A

   b. Is siting approval currently under litigation? ☐ Yes ☑ No ☐ N/A

3. a. Is a closure, and if necessary a post-closure plan covering these activities being submitted, or ☐ Yes ☑ No ☐ N/A

   b. has one already been approved? If yes, provide the permit number: 1991-138-LF

4. a. For waste disposal sites, only: Has any employee, owner, operator, officer or director of the owner or operator had a prior conduct certification denied, canceled or revoked? ☐ Yes ☑ No ☐ N/A

   b. Have you included a demonstration of how you comply or intend to comply with 35 Ill. Adm. Code 745? ☐ Yes ☑ No ☐ N/A

5. a. Is land ownership held in beneficial trust? ☐ Yes ☑ No ☐ N/A

   b. If yes, is a beneficial trust certification form (LPC-PA9) completed and enclosed? ☐ Yes ☐ No ☑ N/A

6. a. Does the application contain information or proposals regarding the hydrogeology; groundwater monitoring, modeling or classification; a groundwater impact assessment; or vadose zone monitoring for which you are requesting approval? ☑ Yes ☐ No ☐ N/A

   b. If yes, have you submitted a third copy of the application (4 total) and supporting documents? ☑ Yes ☐ No ☐ N/A

5. Signatures:

Original signatures are required. Signature stamps or applications transmitted electronically or by FAX are not acceptable.

All applications shall be signed by the person designated below as a duly authorized representative of the owner an/or operator.

Corporation - By a principal executive officer of the level of vice-president or above.
Partnership or Sole Proprietorship - By a general partner or the proprietor, respectively.
Government - By either a principal executive officer or a ranking elected official.

A person is a duly authorized representative of the owner and operator only if:

1. They meet the criteria above or the authorization has been granted in writing by a person described above; and
2. Is submitted with this application (a copy of a previously submitted authorization can be used).

I hereby affirm that all information contained in this application is true and accurate to the best of my knowledge and belief. I do herein swear that I am a duly authorized representative of the owner/operator and I am authorized to sign this permit application form.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Owner Signature: _____ Date: 4-12-2012

Printed Name: Thomas Hilbert Title: Engineering Manager

Notary: Subscribed and Sworn before me this 12th day of April 2012.

My commission expires on: 8-12-12

OFFICIAL SEAL
NICOLE M ROTE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 08/12/12

Signature & Stamp/Seal of Notary Public

Operator Signature: _____ Date: 4-12-2012

Printed Name: Thomas Hilbert Title: Engineering Manager

Notary: Subscribed and Sworn before me this 12th day of April 2012.

My commission expires on: 8-12-12

OFFICIAL SEAL
NICOLE M ROTE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 08/12/12

Signature & Stamp/Seal of Notary Public

Engineer's Name: Douglas W. Mauntel Engineer's Title: Project Engineering

Company: Andrews Engineering, Inc. Registration Number: 062-054530

Street Address: 3300 Ginger Creek Drive PO Box: _____

City: Springfield State: IL Zip Code: 62711 Phone: 217-787-2334

Email Address: dwmauntel@andrews-eng.com License Expiration Date: 11/30/13

Signature: Douglas W. Mauntel Date: 5/10/12

Professional Engineer's Seal:

DOUGLAS W. MAUNTEL
062-054530
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

APPENDIX B

Potentiometric Surface Maps

E. 795,500 E. 796,000 E. 796,500 E. 797,000 E. 797,500 E. 798,000 E. 798,500 E. 799,000 E. 799,500 E. 800,000 E. 800,500 E. 801,000 E. 801,500 E. 802,000

N 2,005,000 N 2,004,500 N 2,004,000 N 2,003,500 N 2,003,000 N 2,002,500 N 2,002,000 N 2,001,500 N 2,001,000 N 2,000,500 N 2,000,000 N 1,999,500

LEGEND

- STREAM GAUGE LOCATION
- NORTHERN UNIT GROUNDWATER MONITORING WELL OR GMZ WELL
- SOUTHERN UNIT GROUNDWATER MONITORING WELL
- PROPERTY BOUNDARY
- CURRENTLY PERMITTED FILL BOUNDARY
- GRADIENT LINE
- PIEZOMETER
- NORTH EXPANSION UNIT MONITORING WELL
- WESTERN EXPANSION UNIT MONITORING WELL

WINNEBAGO RECLAMATION LANDFILL PROPERTY BOUNDARY

NORTH EXPANSION UNIT

NORTHERN UNIT

SOUTHERN UNIT

WESTERN EXPANSION UNIT

SOUTH UNIT EXPANSION

QUARRY OPERATIONS

EASTERN LIMITS OF QUARRY AND ACME SOLVENTS EXTEND BEYOND THIS POINT

BOUNDARIES SHOWN ARE APPROXIMATE

ACME SOLVENTS

KILLBUCK CREEK

WETLAND MITIGATION AREA

NO ACCESS

DAMAGED

NA

P1 700.17
P2 698.25
P3 700.07
G171 698.00
G172 697.88
G173 698.05
G174 698.06
G175 697.83
G176 698.03
G177 698.01
G178 700.33
G179 698.11
G180 698.08
G185 696.09
G182 696.13
R183 694.57
G164 691.62
G165 NA
G166 NA
G167 693.71
G168 695.44
G169 695.36
G170 695.79
G50S DAMAGED
G52S 706.16
G52M 700.21
G53M 702.12
G53S 701.94
G54M 702.29
G54S 702.21
G16M 709.50
G16D 701.75
G34D 701.25
G34S 703.01
G35S 701.38
G37S NO ACCESS
G37D NO ACCESS
G175 701.89
G40S 699.67
G41S 701.50
G41M 704.23
G41D 700.94
G35D 701.65
R39S DAMAGED
G51S 693.61
R03S 701.64
G03M 701.68
G33S 705.62
G33D 704.75
G38S 702.74
G36S 706.74
G36D 706.84
R42S 707.96
G49D 709.67
A28D 709.30
R27D 709.04
G26S 710.90
G26D 710.78
R25D 711.96
R24D 712.11
G23D 725.55
R29S 714.31
G29D 715.92
G09M 719.87
R05S DAMAGED
G09D 720.52
G20D 721.16
G13S 718.75
G13D 716.78
R11S 716.83
G11D 717.08
R22S 729.86
G22D 717.59
MW-25-04 NA
MW-21-04 NA
MW-18-04 NA
MW-16-04 NA
MW-23-04 NA
MW-24-04 NA

NOTES:

1. CONTOUR INTERVAL = 5 FEET
2. SAMPLE DATES = 1/27/2012.
3. (•) NOT USED IN THE COMPILATION OF THE POTENTIOMETRIC SURFACE.
4. THE NORTHERN AND SOUTHERN UNITS OF WINNEBAGO LANDFILL ARE OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 1991-138-LF. THE NORTH EXPANSION UNIT OF WINNEBAGO LANDFILL IS OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 2006-221-LF. THE DEPOSITS MONITORED BY ALL THREE WASTE UNITS ARE HYDRAULICALLY CONNECTED; THEREFORE, A SINGLE MAP DEPICTING THE GROUNDWATER FLOW REGIME HAS BEEN COMPILED.
5. IN THE CASE OF NESTED WELLS THE GROUNDWATER ELEVATIONS FROM SHALLOW WELLS WERE USED IN THE COMPILATION OF POTENTIOMETRIC CONTOURS.
6. POTENTIOMETRIC CONTOURS AS SHOWN ASSUME CONTINUOUS GEOLOGICAL CONDITIONS AND DO NOT ACCOUNT FOR LINER AND SIDEWALLS EMPLACED FOR DEVELOPMENT OF THE NORTH EXPANSION UNIT.
7. FACILITY STRUCTURES SHOWN REPRESENT CONDITIONS IN 2011.

N

300 0 300 600 1200

SCALE: IN FEET

NO.	DATE	REVISIONS DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-9495
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineering and Land Surveying Firm #184-001541

APPROVED BY: JJR | DESIGNED BY: JJR | DRAWN BY: WCU

POTENTIOMETRIC SURFACE MAP
1ST QUARTER 2012

PLANS PREPARED FOR

WINNEBAGO LANDFILL

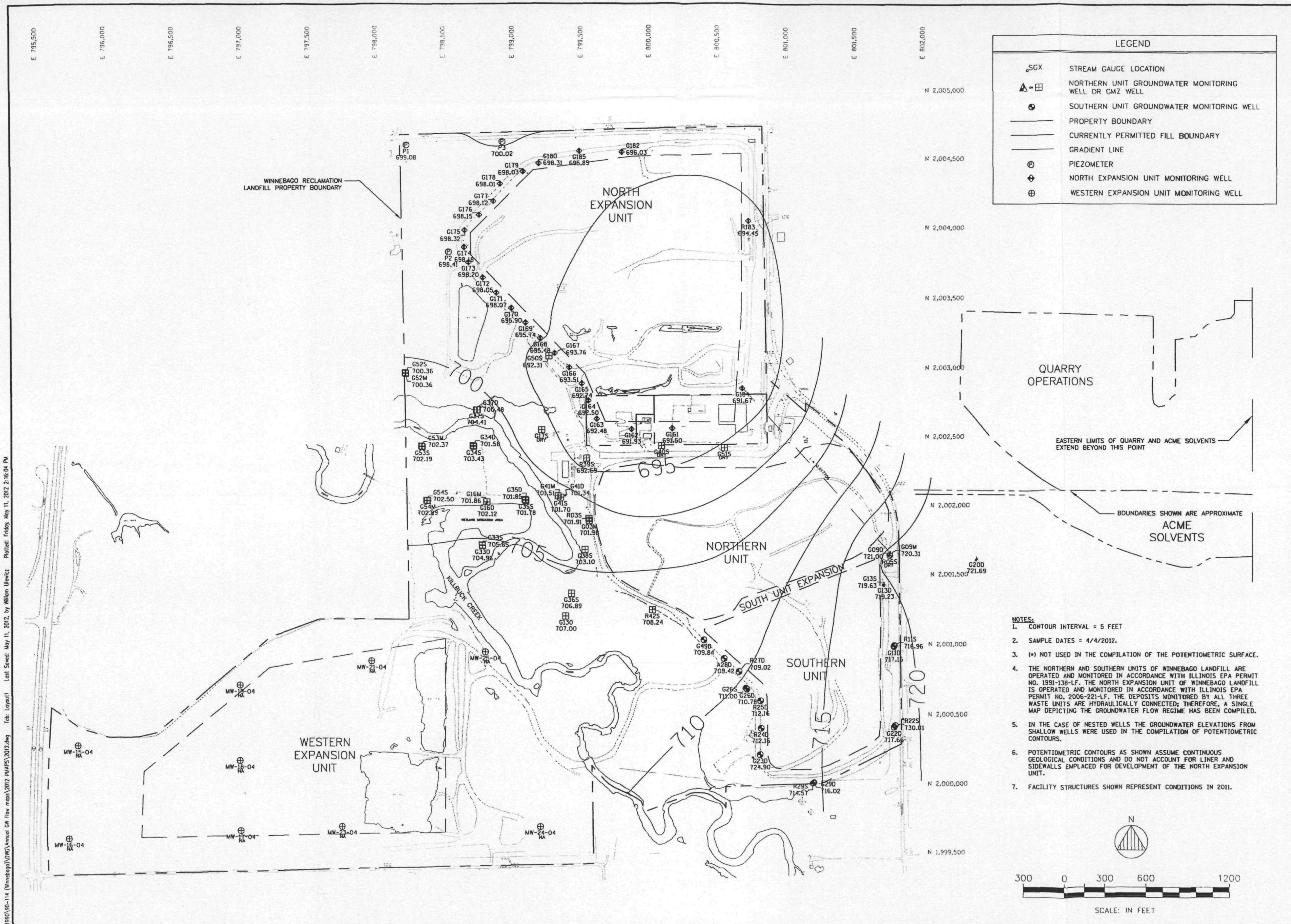
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: May 2012

PROJECT ID: 90-114

SHEET NUMBER: 1Q12

J:\1990\90-114 (Winnebago)\GWC\Annual GW Flow maps\2012 PM\PS\1Q12.dwg Tab: Layout1 Last Saved: May 11, 2012, by William Ukewicz Plotted: Friday, May 11, 2012 2:15:48 PM


E 795,500
E 796,000
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E 800,000
E 800,500
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E 801,500
E 802,000
N 2,005,000
N 2,004,500
N 2,004,000
N 2,003,500
N 2,003,000
N 2,002,500
N 2,002,000
N 2,001,500
N 2,001,000
N 2,000,500
N 2,000,000
N 1,999,500
LEGEND
SGX STREAM GAUGE LOCATION
NORTHERN UNIT GROUNDWATER MONITORING WELL OR GMZ WELL
SOUTHERN UNIT GROUNDWATER MONITORING WELL
PROPERTY BOUNDARY
CURRENTLY PERMITTED FILL BOUNDARY
GRADIENT LINE
PIEZOMETER
NORTH EXPANSION UNIT MONITORING WELL
WESTERN EXPANSION UNIT MONITORING WELL
WINNEBAGO RECLAMATION LANDFILL PROPERTY BOUNDARY
NORTH EXPANSION UNIT
NORTHERN UNIT
SOUTHERN UNIT
SOUTH UNIT EXPANSION
WESTERN EXPANSION UNIT
QUARRY OPERATIONS
ACME SOLVENTS
EASTERN LIMITS OF QUARRY AND ACME SOLVENTS EXTEND BEYOND THIS POINT
BOUNDARIES SHOWN ARE APPROXIMATE
KILLBUCK CREEK
695
700
705
710
715
720
P1 699.08
P2 698.41
P3 700.02
G180 698.31
G185 695.89
G182 696.03
G179 698.03
G178 698.01
G177 698.12
G176 698.15
G175 698.32
G174 698.18
G173 698.20
G172 698.05
G171 698.07
G170 695.90
G169 695.74
G168 695.48
G167 693.76
G50S 692.31
G166 693.51
G165 692.74
G164 692.50
G163 692.48
G162 691.93
G161 691.60
G184 691.67
R183 694.45
G40S DRY
G51S DRY
G17S DRY
R39S 692.69
G52S 700.36
G52M 700.36
G37D 700.48
G37S 704.41
G53M 702.37
G53S 702.19
G34D 701.58
G34S 703.43
G54S 702.50
G54M 702.89
G16M 701.86
G16D 702.12
G35D 701.85
G35S 701.78
G41M 701.51
G41D 701.34
G41S 701.70
R03S 701.91
G03M 701.98
G33S 705.85
G33D 704.96
G38S 703.10
G36S 706.89
G130 707.00
R42S 708.24
G49D 709.84
A28D 709.42
R27D 709.02
G26S 711.00
G26D 710.78
R25D 712.16
R24D 712.16
G23D 724.90
R29S 714.57
G29D 716.02
G09D 721.00
G09M 720.31
R05S DRY
G13S 719.63
G13D 719.23
G20D 721.69
R11S 716.96
G11D 717.16
R22S 730.01
G22D 717.66
MW-15-04 NA
MW-16-04 NA
MW-17-04 NA
MW-18-04 NA
MW-19-04 NA
MW-21-04 NA
MW-23-04 NA
MW-24-04 NA
MW-25-04 NA
N
300 0 300 600 1200
SCALE: IN FEET

NOTES:

1. CONTOUR INTERVAL = 5 FEET
2. SAMPLE DATES = 4/4/2012.
3. (•) NOT USED IN THE COMPILATION OF THE POTENTIOMETRIC SURFACE.
4. THE NORTHERN AND SOUTHERN UNITS OF WINNEBAGO LANDFILL ARE OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 1991-138-LF. THE NORTH EXPANSION UNIT OF WINNEBAGO LANDFILL IS OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 2006-221-LF. THE DEPOSITS MONITORED BY ALL THREE WASTE UNITS ARE HYDRAULICALLY CONNECTED; THEREFORE, A SINGLE MAP DEPICTING THE GROUNDWATER FLOW REGIME HAS BEEN COMPILED.
5. IN THE CASE OF NESTED WELLS THE GROUNDWATER ELEVATIONS FROM SHALLOW WELLS WERE USED IN THE COMPILATION OF POTENTIOMETRIC CONTOURS.
6. POTENTIOMETRIC CONTOURS AS SHOWN ASSUME CONTINUOUS GEOLOGICAL CONDITIONS AND DO NOT ACCOUNT FOR LINER AND SIDEWALLS EMPLACED FOR DEVELOPMENT OF THE NORTH EXPANSION UNIT.
7. FACILITY STRUCTURES SHOWN REPRESENT CONDITIONS IN 2011.

REVISIONS		
NO.	DATE	DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-9495
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineering and Land Surveying Firm #184-001541

APPROVED BY: JLR | DESIGNED BY: JLR | DRAWN BY: WCU

POTENTIOMETRIC SURFACE MAP 2ND QUARTER 2012

PLANS PREPARED FOR

WINNEBAGO LANDFILL

ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: May 2012
PROJECT ID: 90-114
SHEET NUMBER: 2Q12

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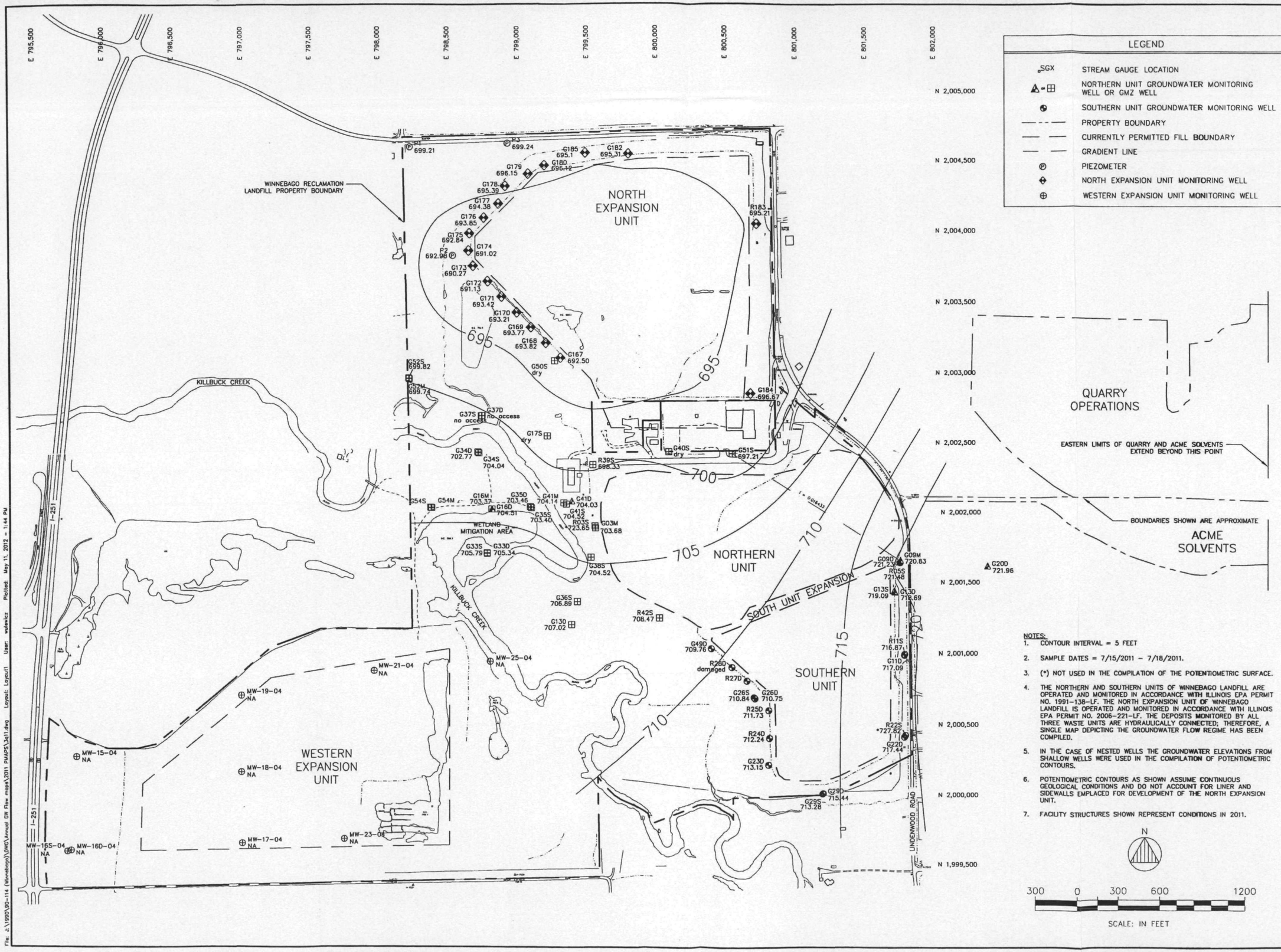

NO.	DATE	REVISIONS DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 Ginger Creek Drive, Springfield, IL 62711-7233
Tel (217) 787-2334 Fax (217) 787-9495
Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO

APPROVED BY: JLR | DESIGNED BY: | DRAWN BY: MPN

POTENTIOMETRIC SURFACE MAP
3RD QUARTER 2011

PLANS PREPARED FOR
WINNEBAGO LANDFILL
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: JULY 2011
PROJECT ID: 90-114
SHEET NUMBER: 3Q11

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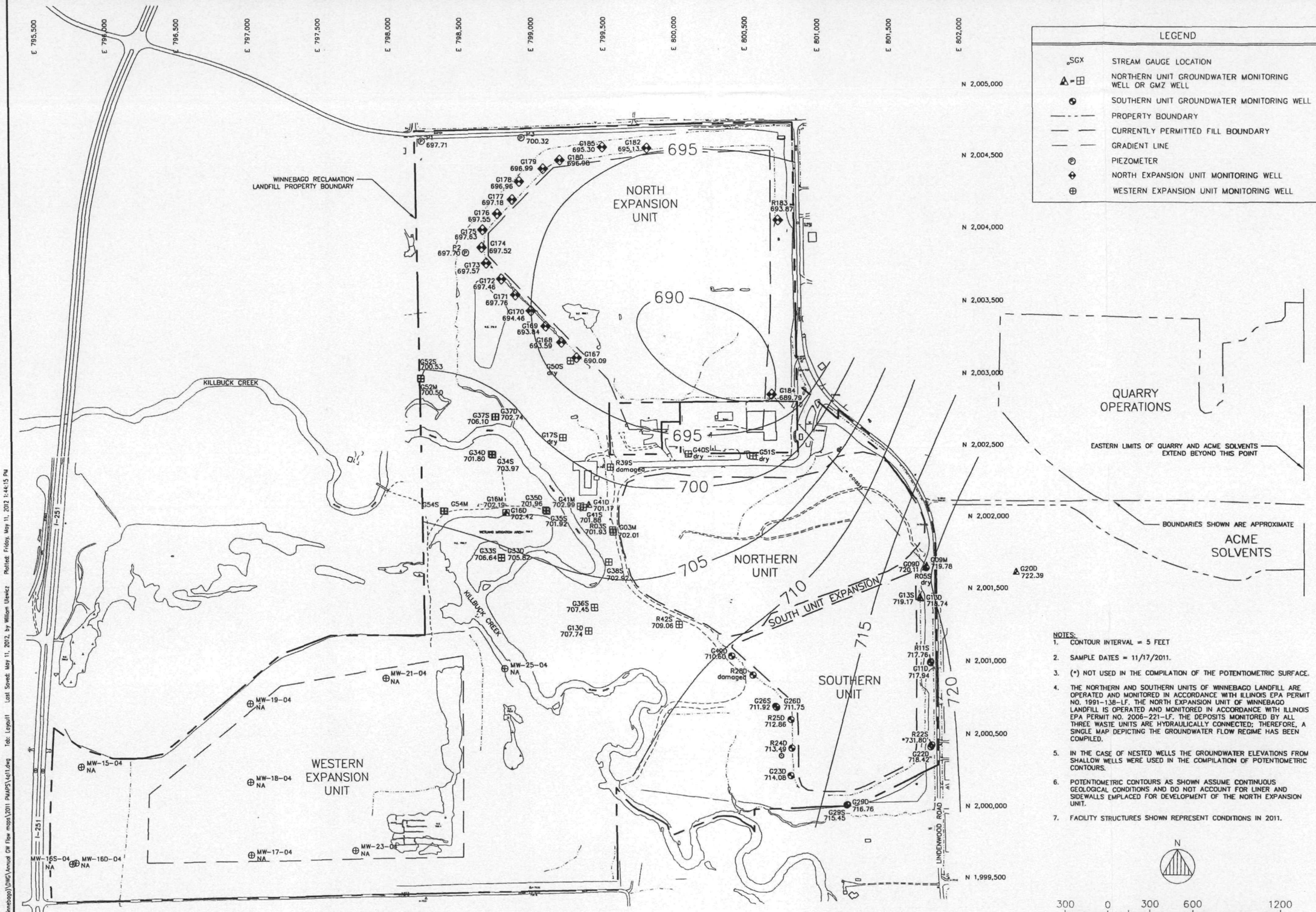

LEGEND

- SGX — STREAM GAUGE LOCATION
- NORTHERN UNIT GROUNDWATER MONITORING WELL OR GMZ WELL
- SOUTHERN UNIT GROUNDWATER MONITORING WELL
- PROPERTY BOUNDARY
- CURRENTLY PERMITTED FILL BOUNDARY
- GRADIENT LINE
- PIEZOMETER
- NORTH EXPANSION UNIT MONITORING WELL
- WESTERN EXPANSION UNIT MONITORING WELL

NOTES:

1. CONTOUR INTERVAL = 5 FEET
2. SAMPLE DATES = 11/17/2011.
3. (*) NOT USED IN THE COMPILATION OF THE POTENTIOMETRIC SURFACE.
4. THE NORTHERN AND SOUTHERN UNITS OF WINNEBAGO LANDFILL ARE OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 1991-138-LF. THE NORTH EXPANSION UNIT OF WINNEBAGO LANDFILL IS OPERATED AND MONITORED IN ACCORDANCE WITH ILLINOIS EPA PERMIT NO. 2006-221-LF. THE DEPOSITS MONITORED BY ALL THREE WASTE UNITS ARE HYDRAULICALLY CONNECTED; THEREFORE, A SINGLE MAP DEPICTING THE GROUNDWATER FLOW REGIME HAS BEEN COMPILED.
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6. POTENTIOMETRIC CONTOURS AS SHOWN ASSUME CONTINUOUS GEOLOGICAL CONDITIONS AND DO NOT ACCOUNT FOR LINER AND SIDEWALLS EMPLACED FOR DEVELOPMENT OF THE NORTH EXPANSION UNIT.
7. FACILITY STRUCTURES SHOWN REPRESENT CONDITIONS IN 2011.

N

300 0 300 600 1200

SCALE: IN FEET

NO.	DATE	REVISIONS DESCRIPTION	BY

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Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO
Professional Design Engineering and Land Surveying Firm #184-001541

APPROVED BY: J.J.R. DESIGNED BY: J.J.R.
DRAWN BY: M.P.N. CHECKED BY:

POTENTIOMETRIC SURFACE MAP
4TH QUARTER 2011

PLANS PREPARED FOR
WINNEBAGO LANDFILL
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

DATE: January 2012
PROJECT ID: 90-114
SHEET NUMBER: 4Q11

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